New Partnership for Africa's Development (NEPAD)

Comprehensive Africa Agriculture Development Programme (CAADP)

Food and Agriculture Organization of the United Nations

Investment Centre Division

GOVERNMENT OF THE REPUBLIC OF KENYA

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume IV of IV

BANKABLE INVESTMENT PROJECT PROFILE

Disease Control and Facilitation of Livestock Commodities Marketing

December 2004

KENYA: Support to NEPAD–CAADP Implementation

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NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

Country: Kenya

Sector of Activities: Livestock

Proposed Project Name: **Disease Control and Facilitation of Livestock Commodities Marketing**

Project Location: Six Disease Control Ecosystems

Duration of Project: Phase 1 for 3 Years

Estimated Cost:
Foreign Exchange ..... US$10.31 million
Local Cost ..... US$4.42 million
Total ..... US$14.73 million

Suggested Financing:

Source	*US$ million*	*% of total*
Government	4.42	30.0%
Financing institution(s)*	9.01	61.2%
Beneficiaries **	0.65	4.4%
Private sector	0.65	4.4%
Total	***14.73***	***100.0%***

* of which $1.6m from ongoing IFAD, WB, USAID, ADB projects.
** councils and livestock marketing organizations

KENYA:

NEPAD–CAADP Bankable Investment Project Profile

"Disease Control and Facilitation of Livestock Commodities Marketing"

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Abbreviations

ADB	African Development Bank
AgGDP	Agricultural Gross Domestic Product
ALRMP	Arid Lands Resources Management Project
ASAL	Arid and Semi–arid Land
CAADP	Comprehensive Africa Agricultural Development Programme
CAHW	Community Animal Health Workers
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
DFZ	Disease Free Zone
EAC	East African Community
ECF	East Coast Fever
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation 2003–2007
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
GEF	Global Environmental Fund
HIV/AIDS	Human Immuno–Deficiency Virus/Acquired Immune Deficiency Syndrome
HMPL	High and Medium Potential Land
IFAD	International Fund for Agriculture and Development
KLMC	Kenya Livestock Marketing Council
KMC	Kenya Meat Commission
LEZ	Livestock Export Zone
LMA	Livestock Marketing Association
LSD	Lump Skin Disease
M&E	Monitoring and Evaluation
MOLFD	Ministry of Livestock and Fisheries Development
MT	metric ton
NALEP	National Agriculture and Livestock Extension Project
NEPAD	New Partnership for Africa's Development
NGO	Non–Governmental Organisation
NMTIP	National Medium Term Investment Program
OIE	*Office international des épizooties* (World Organisation for Animal Health)
PPR	*Peste des petits ruminants*
PRSP	Poverty Reduction Strategy Paper 2001–2004
RSLTC	Red Sea Livestock Trade Commission
RVF	Rift Valley Fever
TAD	Trans–boundary Animal Disease
VIL	Veterinary Investigation Laboratory
VSD	Veterinary Services Department

I. PROJECT BACKGROUND

A. Project Origin

I.1. The proposed project *"Disease Control and Facilitation of Livestock Commodities Marketing"* is based on the clear understanding that, animal diseases control is the key factor in improving livestock production, productivity and commercialization of the livestock sector in both the arid and semi–arid lands (ASALs) and high and medium potential lands (HMPL). The importance of disease control has been recognized by government in the *Economic Recovery Strategy for Wealth and Employment Creation* (ERSWEC 2003–2007) and in the *Strategy for Revitalizing Agriculture* (SRA 2004–2014).

I.2. The project originated from the *Ministry of Livestock and Fisheries Development* (MOLFD, Jan. 2004) as a draft proposal for improvement of livestock marketing infrastructure through establishment of disease free zones and strengthening disease control capacity. During the discussion of the NEPAD–CAADP/NMTIP document in the Stakeholder Validation Workshop (June 2004), the disease control proposal was highlighted as an area for promoting commercialization of the livestock sector as it has strong points in satisfying pillars two and five of the CAADP programme. The project is also in line with East African Community proposal for control of trans–boundary animal diseases (EAC, Feb. 2004) whose objective is to control TADs (FMD and CBPP) so as to increase livestock production and productivity and to promote regional and international trade. The current proposal was updated in July 2004 by the *Veterinary Services Department* (VSD).

B. General Information

I.3. Kenya's total area is 587,000 km^2 of which 576,076 km^2 is land area and the remaining 11,230 km^2 is covered by water. Of the total land area of 57.6m ha, 9.4m ha (16.3%) are HMPL. The remaining 48.2m ha are ASAL, accounting for 84% of the total land area. Of the 9.4m ha of the HMPL, 1.1m ha (12%) is covered by game parks and reserves, 2.8m ha is crop land (30%), 2.8m ha is for grazing (30%), 2.0m ha is under forestry (23%) and 0.5m ha (5%) is covered by urban areas, homesteads and other infrastructure. Of the 48m ha of ASAL, 9.0m ha (19%) can support some agriculture, 15m ha (31%) is just adequate for livestock keeping, and the remaining 24m ha (50%) is dry and only useful for nomadic pastoralism. Although these figures have changed due to increasing population, they indicate the need for integrated policies and programmes which address both the crop and livestock sub–sectors for optimal utilization of the agricultural resources.

I.4. The high potential areas with annual rainfall of over 1,000 mm account for less than 20% of productive land but support 50% of the population (16 million) and produce most of milk, cash and food crops, while medium potential areas with an annual rainfall of between 750–1,000 mm occupy 30–35% of the land area and support 30% of the population (10 million) and farmers predominantly keep cattle and small–stock. The low potential areas with annual rainfall of less than 750 mm support 20% of the population (6 million), keep 50% of the country's livestock and 65% of wildlife. Despite the scarcity of productive land, the agricultural sector is the leading sector of the economy contributing 26% of GDP directly and another 27% indirectly through agro–industrial linkages. The sector also accounts for over 60% of employment and about 60% of foreign exchange earnings, mostly from horticulture, tea and coffee.

I.5. The livestock sub–sector contributes 10% of GDP and 30% of AgGDP and employs about 50% of the agricultural labour force. The livestock resource base is estimated at 60 million units

comprising of 29 million indigenous and exotic chicken, 10 million beef cattle, 3 million dairy and dairy crosses, 9 million goats, 7 million sheep, 0.8 million camels, 0.52 million donkeys and 0.3 million pigs. The sub–sector supplies the nation with most of its animal protein needs with an estimated annual per capita consumption at 8.9 kg/cap for beef, 0.7 kg/cap for goat meat, 0.5 kg/cap for mutton, 1.1 kg/cap for chicken, 1.8 kg/cap for pork and 80–125 kg/cap for milk. Although the country is broadly self–sufficient, it imports about 50 MT of canned beef annually and small amounts of boneless meat and sausages. However, in the case of the total beef consumed about 22% is from cattle trekked into Kenya through the porous borders with the neighbouring countries of Somalia, Sudan, Ethiopia and Tanzania.

I.6. Livestock producers, with the exception of dairy and large–scale ranchers, are among the poorest in the country with 60% of the population in ASAL areas being below the poverty line. The areas are also prone to droughts and infrastructure is poorly developed. The marketing system is rudimentary and cattle are trekked for long distances to the scattered markets. There is high prevalence of epizootic notifiable diseases e.g. FMD, Rift Valley Fever, CBPP, CCPP, LSD and ecto– and endo–parasites among others. Due to lack of farmers marketing organizations and lack of market information, pastoralists receive only about 50% of the consumer price with traders and middlemen making high margins.

I.7. During the 1960s and 1970s, Kenya used to export a considerable amount of livestock products. For example, between 1960 and 1974, exports of chilled beef averaged 3,000 MT annually while those of canned beef averaged 11,000 MT annually. By 1972, exports of livestock products (meat and products, undressed hides and skins, wool, butter and ghee accounted for 10.4% of export earnings and ranked third after coffee (27.4%) and tea (18.1%). Since then exports have been on the decline and by 2000, Kenya exported only 60 MT of beef, 27 MT of small–stock meat, 450 live small–stock and about 3,000 live camels.

I.8. Since 1980 when the *National Livestock Development Policy* paper, with emphasis on increased production to make the country self–sufficient, was formulated, the sub–sector has undergone various changes. In 1987, the meat industry was liberalized promoting the emergence of many small slaughterhouses and the collapse of the monopolistic *Kenya Meat Commission* (KMC) causing cessation of the export trade. In 1991, dipping services were transferred to communities but the number of operational dips has dropped from 5,159 in 1990 to 2,250 currently. In the same year, provision of drugs at cost was started, while clinical and artificial insemination services were privatized in 1993. During the last decade, government funding for livestock extension and veterinary services has increasingly diminished. For example, the VSD gets only 18% of the required US$10m to effectively control FMD which has spread from the original 29 scheduled districts to 40 districts placing 4 million cattle at risk. In the case of tick control, the department receives only 5% of the required US$2.5m.

I.9. The MOLFD is the major institution to steer the sector. The ministry is represented in all districts up to the lowest administrative level and has the personnel infrastructure to handle a disease control project countrywide. However, as the sector has been liberalized there is need for strong private sector involvement, as well as strong farmer steered organizations especially in livestock/meat products marketing. Recently a *Kenya Livestock Marketing Council* (KLMC) has been formed but it is not very effective.

II. PROJECT AREA

II.1. The project will mainly be based on the control of FMD and CBPP in ***six disease control blocks or ecosystems*** as defined by the East African Community proposal on the control of TADs. These are: (i) Turkana–Karamojong ecosystem stretching to the Nile river, (ii) West Nile–Kagera, (iii) Maasai ecosystem, (iv) Somali ecosystem, (v) Agro–pastoral Luo–Kuria–Sukuma and (vi) southern border ecosystem. In Kenya, these ecosystems have been delineated into six ecosystems and buffer zones as shown in Annex 1, where they are denoted as B1 (Block 1: NW Kenya), Northern (Block 2: northern Kenya), B3 (Block 3: central Kenya, i.e. central province and central Rift), B4 (Block 4: Maasai ecosystem), B5 (Block 5: Sukuma–Kuria–Luo ecosystem) and B6 (Block 6: Somali ecosystem, coast province included) (see also the Box below).

II.2. The livestock populations in each zone are as shown in Annex 2. Although these ecosystems have not been delineated on a formal manner, they are derived from the earlier disease control programmes which were based on natural barriers, a disease control corridor separating the disease–prone northern rangelands from the high potential southern areas, and buffer zones in the medium potential areas.

Concepts in Disease Control

The country will be mapped into disease control and livestock marketing blocks according to geographical arrangements and the general movements of livestock to the markets. Each disease control block will be subdivided into ***disease free zone***, ***buffer zone*** and ***disease surveillance and control zone*** (infected zone). These concepts are defined below.

- The definition of a ***disease free zone (DFZ)*** or ***livestock export zone (LEZ)*** is *"an area set aside by the veterinary authorities and the stakeholders and made free of specific diseases such as FMD and CBPP or any other disease specified by the importer in order to facilitate access to local and export markets for livestock and livestock products"*. Activities in developing a DFZ include:
  - vaccinations against notifiable diseases e.g. FMD, LSD, etc.;
  - identification of animals, e.g. by branding using specified brands;
  - strict livestock movement control (community and other stakeholder participation with the veterinary department providing the technical leadership);
  - intensified disease surveillance and reporting (carried out by both the public and private sector players);
  - fattening of animals, e.g. through production of fodder;
  - putting in place quarantine areas and facilities;
  - encouraging private sector investors to put up export slaughterhouses and meat processing plants together with other allied industries e.g. tanneries for production of high quality leather.
- The definition of ***buffer zone*** is *"a marked area surrounding the DFZ where intensive disease control methods including disease surveillance, vaccinations are carried out to prevent introduction of disease into the DFZ. Animals are allowed to move into the DFZs after being certified free of disease"*.
- ***Quarantine area*** means a facility within a buffer zone under the control of the veterinary authority where a group of animals is maintained in isolation, with no direct or indirect contact with other animals, in order to undergo observation for a specified length of time and, if appropriate, testing and treatment.
- ***Disease control are***a or ***infected zon***e means a zone in which the absence of the disease under consideration has not been demonstrated by the requirements specified in OIE Code being met.

III. PROJECT RATIONALE

III.1. The importance of the project is highlighted by the following quotation: ***"The ability of the country to fully exploit its potential in livestock production is seriously hampered and undermined by diseases brought about by ticks and tsetse flies or spread through livestock movement. Diseases such as ECF, Trypanosomiasis and FMD seriously limit livestock production, movement, trade and overall returns to investment in the livestock industry"*** (SRA 2004–2014).

III.2. The SRA further puts suggestions on interventions to address the problem including: (i) review of animal health laws to promote participation of the private sector; (ii) expansion of production for freeze dried vaccines; (iii) establishment of cold chains facilities in regional centres; (iv) establish collaboration arrangements with neighbouring countries for disease control; (v) establishment of disease free zones in strategic areas for export purposes; and (vi) capacity building for farmers groups and user associations in disease surveillance and control. Kenya has also put proposals to NEPAD for a sub–regional project in improvement of livestock marketing infrastructure in the Horn of Africa. In terms of investment programme for ERSWEC and NMTIP the emphasis is for creation of disease free zones, single permit system for livestock movement and decentralized and private sector slaughterhouse. The government strategy has potential relevance to CAADP pillar 5 and to an extent to pillars 2 and 3 and it precisely fits the proposed project.

III.3. Other major projects related to this proposal include the World Bank funded *Arid Lands Resources Management Project* (ALRMP), and the African Development Bank funded ASAL–based *Livestock Management Project*. The World Bank project has three components namely, natural resources and drought mitigation and management, community driven development and support to local development. The ADB project includes funding to sustainable rural livelihoods through training of stockholders, some aspects of support to animal health especially the rehabilitation of three quarantine facilities, enhancing of incomes by encouraging diversified production (e.g. beekeeping and camel rearing) water supplies etc, and enhancing livestock marketing (establishment of four satellite slaughterhouses, camel marketing, microfinance to traders, establishment of small tanneries etc.).

III.4. The proposed project which is aimed at a major goal of commercialization, with emphasis on exports will therefore complement the ongoing efforts especially in a focused disease programme and will work closely with these projects to create an integrated livestock development programme for ASAL and HMPL areas for the benefit of pastoralist, agro–pastoralists and farmers.

IV. PROJECT OBJECTIVES

IV.1. The overall objective of the project is ***to control and eradicate trans–boundary animal diseases in Kenya so as to increase livestock production and productivity and promote regional and international trade***. This is based on two observations. Firstly, in the past, Kenya used to export an average of 3,000 MT of chilled beef and 11,000 MT of canned beef per year and that livestock products exports accounted for 10% of foreign exchange earnings. Livestock exports ceased in the 1980's due to the breakdown of disease control systems and the collapse of the export–oriented abattoir. Secondly, recent studies have shown that there are potential markets in Africa and Middle East for both meat and livestock. The African market is estimated at 154,800 MT for North Africa, 102,200 MT for West Africa, 42,300 MT for Central Africa and 222,000 MT for Southern Africa. The red meat market for Middle East (Gulf States and Saudi Arabia) is estimated at 877,420 MT while imports of live cattle are estimated at 172,560 animals (Yemen and Jordan), 24,440 camels for Saudi

Arabia and 10.86 million sheep and goats. Currently, only Botswana (15,220 MT), Sudan (12,130 MT), Namibia (11,670 MT) and Zimbabwe (11,240 MT) are significant exporters of beef from Africa. However, for Kenya to participate in this trade, it has to meet stringent standards especially for Middle East countries as shown in Annex 3. The supporting objectives include:

- To promote participation of all the stakeholders, including the local government authorities and the farming communities, in the control of TADs, i.e. FMD, CBPP, CCPP, and sheep and goat pox.
- To improve reporting, diagnosis, surveillance and monitoring of animal diseases.
- To increase livestock production/productivity, processing and marketing of livestock products and by–products.
- To increase the cattle immunity and resistance to diseases.
- To strengthen the veterinary department and linkages and collaboration of all the stakeholders in ensuring effective disease control.
- Mapping the country into disease control and livestock marketing blocks.

V. PROJECT DESCRIPTION

A. Project Conceptualization and Outline

V.1. The project's concept is based on proposals in ERSWEC, NEPAD–CAADP NMTIP, SRA and the MOLFD proposal of 2004. It also takes into account the set of interactions between Kenya and its neighbours and the traditional Middle East market which has recently introduced stringent hygiene standards for exports. As the sector is liberalized, the public sector is expected to be involved in the core function of disease control and its associated infrastructure while the private sector is expected to play major roles in market–oriented activities

V.2. The proposed project has four major components: (i) Disease control in two ecosystems and establishment of disease free zones in two strategic areas for export purposes (Northern Kenya/Laikipia and N.E Kenya/Galana/Taita–Taveta); (ii) Establishment of regional diagnostic laboratories; (iii) Capacity building for farmers' groups and users associations in disease control; and (iv) Coordination at national and district level.

V.3. It should be noted that including only the two ecosystems in the first phase of the project has very major implications in the disease control system in Kenya as it basically implies the re–establishment of the previous disease control corridor, which is critical for future disease control programmes in other ecosystems.

B. Project Components

***Component 1:* Disease Control in Two Ecosystems**

V.4. The main objective is to reduce the prevalence of major livestock diseases in both areas to improve marketing opportunities and terms of trade for pastoral livestock and reduce animal disease risk in high potential areas. The diseases include highly transmissible OIE list A diseases (FMD, RVF,

CBPP, CCPP, LSD, Brucellosis, Anthrax, sheep and goat pox, ecto– and endo–parasites). The key components of disease control include; vaccination campaigns, livestock movement control, disease surveillance and reporting, capacity building in risk analysis, inspection and certification of livestock and livestock products, and finally through setting a communication and exchange system on diseases.

V.5. The areas mentioned as suitable disease free zones (DFZs) include Uasin Gishu, Kajiado/Machakos, Laikipia, Taita–Taveta and Galana ranches. The first phase would include Northern Kenya and North Eastern Kenya ecosystems. Laikipia would take animals from Northern Kenya while Galana would take animals from North Eastern Kenya especially those passing through Garissa and trekked down Tana River district. The concept of a disease free zone involves complete eradication of epizootic notifiable diseases. The zone can be delineated as a ranch or a district. Several activities have to be undertaken including community mobilization and creating awareness on all stakeholders, strengthening laboratory diagnostic capacity, erection of vaccination facilities, livestock identification and census within DFZ and carrying disease surveillance within the zone. Most of these activities are covered under the disease control sub–components.

***Component 2:* Establishment of Disease Control Offices at Regional Laboratories**

V.6. Six veterinary investigation laboratories are located in various regions of the country. They provide critical support to disease control through disease diagnosis, surveillance, livestock and livestock products quality, quality assurance and residue testing for international trade. Most of the equipment in these laboratories are old and need replacement. With the proposed decentralized slaughterhouses and establishment of disease free zones, with emphasis on exports there is a critical need to up–date these laboratories.

***Component 3:* Capacity Building for Farmer Groups and Users Associations**

V.7. The pastoral communities and agro–pastoral farmers have a wealth of knowledge in disease identification which needs to be enhanced in order to create a grassroots system for disease surveillance, reporting and control. This can be done by training farmers and community animal health workers (CAHW). In pastoral areas, especially near the porous borders with neighbouring countries, communities can undertake the crucial role in surveillance of trans–boundary movements. County/municipal councils and livestock marketing association members also need to be trained in maintenance and management of quarantine/holding grounds.

***Component 4:* Coordination at National and District Level**

V.8. The project will establish a two–tier coordination system with liaison/coordination units at headquarters and in the participating districts.

VI. INDICATIVE COSTS

VI.1. A project of this nature and magnitude requires a multi–disciplinary team to effectively identify costs for each sub–component and critically study related projects and proposals and government potential contribution to the project. The indicative costs based on the MOLFD estimates are summarized as follows.

VI.2. ***Disease Control in Two Ecosystems.*** This is the main component of the project and includes the purchase of FMD, CBPP and CCPP vaccines, cold chain and vaccination equipments and support in purchase of one vaccination vehicle per district. The indicative budget provided below is only for phase 1 covering two ecosystems (blocks 2 and 6) spread over 16 districts, as indicated in Annexes 1 and 2.

Indicative Costs of Vaccines and Vaccination Equipment				
Item Description	Year 1	Year 2	Year 3	Total
Purchase of 2,865,430 doses FMD vaccines @ Ksh60.00	171,925,800	171,925,800	171,925,800	515,777,400
Purchase of 2,865,430 doses CBPP vaccines @ Ksh4.00	11,461,720	11,461,720	11,461,720	34,385,160
Purchase of 750,000 doses Sheep & Goat Pox vaccines @ Ksh4.00	3,000,000	3,000,000	3,000,000	9,000,000
750,000 doses CCPP vaccines @10.00	7,500,000	7,500,000	7,500,000	22,500,000
Purchase of 16 large gas fridges (10 cu.ft) @ Ksh145,000.00	2,320,000	2,320,000	2,320,000	6,960,000
Purchase of 16 small gas fridges (4.5 cu.ft) @ Ksh125,000.00	2,000,000			2,000,000
Purchase of 64 automatic vaccination syringes 50 cc @ Ksh9,000.00	576,000			576,000
Purchase of 240 dozens of hypodermic needles G14 x 3/4" @ Ksh350.00	84,000			84,000
Purchase of 16 vaccination vehicles 4 wheel drive	40,000,000			40,000,000
Total (Ksh.)	238,867,520	196,207,520	196,207,520	631,282,560
Total (US$ million)	*2,985,844*	*2,452,594*	*2,452,594*	*7,891,032*

VI.3. ***Establishment of Regional Disease Control Offices and Laboratories.*** This component, which is estimated to cost US$1.7m, covers the construction of disease control offices at the six regional *Veterinary Investigation Laboratories* (VILs), completion of the Garissa VIL and capacity and equipment support for diagnostic. Disease surveillance, quality assurance and information exchange in the six VILs with costs estimated as follows:

- Construction of a disease control office at each laboratory, estimated at Ksh16.7m per office (US$0.21m);
- Building diagnostic capacity including:
  - equipment (TC microscopes, Elisa Kits) and reagents estimated at Ksh3.6m (US$0.045m);
  - training of staff at Ksh3.6m (US$0.045m);
  - six vehicles at Ksh2.0m (US$0.15m);
  - quality assurance Ksh3.2m (US$0.04m);
  - completion of Garissa VIL at Ksh4.0m (US$0.05m);
  - communication at Ksh1.0m (US$0.013m).

VI.4. ***Capacity Building for Farmer Groups and Users Associations.*** Capacity building for disease control during phase 1 running over a period of three years will be undertaken in the 16 selected districts. Total estimated cost is Ksh2.2m per district per year translating to Ksh35.2m,

equivalent to US$0.44m per year. On this basis, the estimated cost over the three–year period is approximately US$1.30m.[1]

VI.5. ***Coordination of the Project.*** Coordination will mainly be through the district *Veterinary Services Division* offices as well as a small headquarters liaison office to work with other concerned ministries, institutions and related projects. The costs for these activities are calculated at 50% of government contribution.

VI.6. ***Government Contribution to the Project***. Government contributions to the project include, personnel and their recurrent costs, transport maintenance and partial contribution in financing of laboratories and related activities. This is estimated at 30% of total project costs.

VI.7. ***Contingencies.*** Contingencies are calculated at 7.5% of the total costs as most of the activities take place in distant and remote areas of the country. In this contingency component, about US$300,000 can be used for any necessary consultancy as identified during the project implementation.

VI.8. ***Foreign Exchange.*** This is for purchase of vaccines and vaccination equipment. It is estimated at 70% of total project costs.

VI.9. Based on the above assumptions the total project costs are estimated at US$14.73 million over a three year period as shown below:

Indicative Project Costs – Summary Per Component Per Year					
Components	Year 1	Year 2	Year 3	Total	%
Disease control system	2.99	2.45	2.45	7.89	57.6%
Veterinary Investigation Labs	1.70	–	–	1.70	12.4%
Capacity Building	0.44	0.44	0.44	1.32	9.6%
Government					
– Transport costs	0.22	0.22	0.22	0.66	4.8%
– Personnel cost	0.40	0.40	0.40	1.20	8.8%
Project Coordination	0.31	0.31	0.31	0.93	6.8%
Total Base Costs	6.06	3.82	3.82	13.70	100%
Contingency (7.5%)	0.45	0.29	0.29	1.03	7.5%
Total Project Costs (US$ million)	6.51	4.11	4.11	14.73	107.5%
Foreign Exchange (70%)	*4.56*	*2.87*	*2.87*	*10.31*	*70%*

VII. PROPOSED SOURCES OF FUNDING

VII.1. The indicative total project cost is US$14.73m of which US$10.31m is foreign exchange (70%), mostly for the purchase of vaccines and vaccination equipment and US$4.42m is the local component (30%) for capacity building, transport operating costs, public personnel costs and beneficiary contribution. The potential sources are as described below.

[1] It considered that training should be undertaken every year of the project phase to ensure adequate coverage and staff capacity.

VII.2. ***Government.*** Government will mostly finance the local components for building disease control offices, technical capacity building for disease control, transport operating costs and personnel costs. The total contribution is estimated at US$4.42m (30%).

VII.3. ***Donor–Funded Projects.*** The two major donor funded projects, i.e. ADB and World Bank, as well as minor bilateral and NGO projects have some components of animal health and capacity building and it is estimated that their contribution to the disease control programme is US$1.6m. Other NEPAD donors are expected to source funds estimated at US$7.41 mostly for financing vaccines, vaccination equipment and up–grading laboratories.

VII.4. ***Beneficiaries.*** The beneficiaries include stakeholders, municipal/county councils, ranchers and livestock traders. These stakeholders especially pastoralists and ranchers will contribute to the project in the future through cost–sharing in purchase of vaccines. Traders will also contribute through payments of movement permits. County and municipal councils will be encouraged to operate quarantine areas and purchase vaccines from the project. The contribution of beneficiaries is mostly in helping sustainability of the project after implementation. Their contribution to the project at implementation is estimated at US$1.3m.

VII.5. Based on the above assumptions, the breakdown on sources of financing is as indicated below:

Indicative Suggested Financing		
Source	US$ million	% of total
Government	4.42	30.0%
Financing institutions	9.01	61.2%
Beneficiaries	0.65	4.4%
Private sector	0.65	4.4%
Total	14.70	100.0%

VIII. PROJECT BENEFITS

VIII.1. Economic losses due to inadequate disease control are difficult to quantify due to lack of epidemiological and economic data as well as lack of a recent census on the national herd. Conservative estimates of losses were put at US$40–50m/year in the late 1970's. Since then and especially in the last decade after liberalization when provision of veterinary services deteriorated, the losses are much higher possibly from US$50–100m/year. It is estimated that inadequate vaccinations against FMD has exposed 4 million cattle in 41districts while it is estimated that the annual loss due to morbidity and mortality from tick–borne diseases is about US$12.5m per year.

VIII.2. In estimating the incremental benefits for this project, it has to be noted that there is less than adequate disease control as well as annual increase in demand for livestock products. The incremental benefits would accrue to about 500,000 pastoral and 600,000 smallholder dairy farmers, 60 commercial ranchers and 5–10 large butchers who are potential exporters.

VIII.3. In the case of pastoralists the benefits include:

- Improved disease control thus reducing losses due to diseases;
- Improving market opportunities in terms of incremental sales for fattening in higher potential areas.

VIII.4. In the case of agro–pastoralists and farmers in HMPL areas, the main benefits include:

- Improved direct disease control and indirectly through control of movement and quarantine system;
- Availability of quarantined stock from ASAL areas for fattening and restocking, which is currently illegal.

VIII.5. In the case of commercial ranchers, the main benefit is the availability of stock from ASAL areas for restocking and fattening. In the case of exporters of livestock and meat products, the benefit is the availability of export livestock from disease free zones and meat products which meet stringent standards of importing countries.

VIII.6. If the project manages to reduce disease loss by 40% of the estimated US$75m annual loss, i.e. US$30m, the benefits are considerable even without considering the export benefit. With annual project costs estimated at US$13.62m, the benefit/cost ratio is 2:1, which makes the project attractive.

IX. IMPLEMENTATION ARRANGEMENTS

IX.1. The major ministries involved in the livestock sector include MOLFD, Office of the President through the ALRMP, and Water Development. Various donors are also involved, i.e. World Bank, ADB, USAID and AU–IBAR (PACE) through various programmes. Several NGOs, mostly implementing projects for bilateral donors are also in the field. The main ones include FARM–Africa, SNV–Netherlands, *Vétérinaires Sans Frontières* (VSF), CARE, OXFAM, and ACTIONAID among others. At the local level are livestock marketing associations (LMAs) represented at the national level by *Kenya Livestock Marketing Council* (KLMC). Local authorities also play an important role as they own marketing facilities and slaughterhouses. The proliferation of many stakeholders in ASAL areas implies a low level of coordination and duplication of activities. The proposed project has therefore to take this scenario into account in its implementation.

IX.2. The project would establish a two tier management system with strong emphasis of decentralized management at the district level. At the headquarters of MOLFD a ***Liaison and Coordination Unit*** will be established. The VSD and the *Livestock Production Department* (through the *Livestock Marketing Services Division*) will share responsibility for overall planning, procurement and coordination of the project. They will liaise with the Office of the President (ALRMP), Ministry of Planning and National Development (NEPAD Secretariat) and multilateral and bilateral donors.

IX.3. The district level *Liaison and Coordination Unit* will play the major role in developing a participatory approach for project implementation between implementers and the beneficiaries. The key persons in implementation will be the District Veterinary Officer and the District Livestock/Marketing Officer. A liaison unit will involve NGOs, Local Council officials, ALRMP representatives, Kenya Livestock Marketing Council/Livestock Marketing Association to represent pastoralists/farmers and any other donor–funded project representative. The basic objective will be to streamline activities at the grassroots level and to avoid duplication of activities.

X. TECHNICAL ASSISTANCE REQUIREMENTS

X.1. Kenya has a pool of qualified veterinary and livestock production officers, with experience in operating quarantine, disease and livestock movement control. As such, at this phase of project preparation, there is no proposal for long–term technical assistance. However, there is need in enhancing capacity in some aspects of the project as follows:

- Enhancing diagnostic capacity, disease surveillance and quality assurance of livestock products
- Short–term consultancy in setting up an Export Zone with strong inputs from AU–IBAR/*Red Sea Livestock Trade Commission* (RSLTC)
- Short–term consultancy to study livestock and meat products markets and hygiene requirements in Middle East and potential African markets.
- Short term consultancy in setting operational and organizational mechanisms of identified disease free zones or ranches.

X.2. It has to be noted that these consultancies may only be necessary if the Veterinary Department does not have the expertise. However, in case some are necessary, the project contingencies are adequate to cover studies and consultancies.

XI. ISSUES AND PROPOSED ACTIONS

XI.1. Four issues need to be addressed in the project: (i) technical, (ii) financial, (iii) institutional and (iv) government policy, as briefly described below:

XI.2. ***Technical issues*** include:

- *Phased implementation of disease control and disease free zone system.* While it is essential to establish disease control systems all over the country, this may not be possible in the short–term due to constraints in mobilization of funds and other technical constraints. To overcome this problem, the project proposes implementation of disease control and the disease free zone system in phases. Two disease control blocks i.e. Northern Kenya disease control block/Laikipia disease free zone (B2) and Somali ecosystem/Galana/Kilifi/Taita ranches (B6) would be covered in the first phase as they have attributes which are essential in the disease control programme. Firstly, the ecosystems are essential in controlling trans–boundary diseases especially FMD and CBPP from Somalia and Ethiopia. Secondly, there are quarantine facilities, one at Isiolo in block B2 and one at Garissa in block B6. Thirdly, there exists a system of fattening in the ecosystems where the northern Kenya ecosystem supplies animals for fattening in Laikipia (after quarantine at Isiolo) and the Somali ecosystem supplies animals for fattening in ranches in Taita–Taveta (after quarantine at Garissa) and fourthly, the buffer zones are protected by natural barriers like Tana River and national parks. The second phase would include North–Rift ecosystem with fattening in Uasin Gishu (B1). This will control trans–boundary diseases from Uganda and Sudan. The third phase would involve the Maasai ecosystem (B4) and the final phase would involve the Central Kenya DFZ (B3) and Nyanza Province (B5).

- *Project scale.* The project as conceived is mostly dominated by supply of vaccines and drugs for disease control accounting for 62% of baseline costs. These are required on annual basis. The government currently manages to finance only about 20% of requirements and it is necessary to find alternative methods of finance if the project is to be sustainable after the project period. It is proposed that cost–sharing or selling drugs at cost be incorporated into the project, as well as collection of movement permit and quarantine fees to ensure sustainability after the end of the project.

- *Participation.* The project is based on the premises that the government's role is to participate in the core function of disease control while the private sector and beneficiaries take the other roles. This assumes that there is adequate awareness and mobilization of the private sector and beneficiaries. It is therefore necessary to sensitize the various stakeholders of their roles before the project is implemented. The proposed capacity building component is expected to address this issue.

XI.3. ***Financial Issues.*** The proposal assumes that the government has adequate funds and that the international development partners committed to support NEPAD can raise the bulk of funds. The proposal also assumes that related donor projects are willing to cooperate and that the private sector and beneficiaries are convinced of the potential benefits of the project. The overall financing proposal needs serious analysis to come up with a workable package. It is proposed that the government allocate more funds to disease control and consultations be made with on–going projects to allocate more funds to disease control.

XI.4. ***Institutional Linkages***. As stated earlier, various public, donor, NGOs, private sector and local authorities' institutions are involved in the livestock sector. For the project to succeed, it needs to form strong linkages among all the concerned stakeholders both at national and district levels. This will minimize duplication of efforts and optimize the overall goal of raising incomes to livestock keepers. The liaison and coordination system proposed for the project is expected to address this issue.

XII. POSSIBLE RISKS

XII.1. ***Mobilization of Financiers and Funds.*** Although the livestock sector, especially projects related to ASAL areas, has attracted donor finances recently, it has always been a problem to mobilize financiers. This has mostly been due to unpredictable nature of the production system. This project requires considerable foreign exchange financing and mobilization may take time causing delays in implementation. As mentioned above, the government and donors have put more emphasis in disease control and addressing food security and income generation in ASAL areas. There is therefore a felt need to allocate more funds to the livestock sector.

XII.2. ***Government Support to the Project.*** The major component of government support to the project is in terms of provision of personnel and their operational budget. The budget is usually inadequate and personnel are not motivated to aggressively implement projects. Government needs to address this issue in the implementation phase. Funds allocated for recurrent and development to MOLFD total US$74m and the suggested government financing of US$4.42m is only 6% of the allocation. Government should be able to allocate these funds to the project as disease control is a core function. The other major core function is extension and it is covered under the *National Agriculture and Livestock Extension Project* (NALEP).

XII.3. ***Supply–side Risks.*** These include sustainability of supply and disease risks from surrounding countries. In terms of sustainability of supply, it has to be noted that out of all beef animals slaughtered in Kenya, an estimated 22% comes from the surrounding countries of Somalia, Ethiopia, Sudan and Tanzania and with improvement in security in some of these countries, this supply source may cease. The disease problem is due to the porous borders and even if Kenya implements a comprehensive disease control programme, it might not be effective unless there is a regional programme for trans–boundary animal diseases control as proposed by the East African Community. The traditional marketing system in the region is demand–driven and this assures consistent supply to Kenya. The East African Community and IGAD initiatives at trans–boundary disease control will ensure sustainability of disease control in the ecosystems.

XII.4. ***Market Related Risks.*** These relate to the export markets due to stringent hygiene requirements. For example, Kenya's exports to Egypt which imports 150,000 MT/year were banned in 1998 while those to Middle East were banned in 2001, due to Rift Valley Fever. Government had to spend US$1.56m for the control of RVF for the ban to be lifted in July 2004. Kenya can only meet export conditions by adhering to a strict disease control programme and establishment of export certified slaughterhouses. The re–opening of the export–oriented KMC and up–grading of other slaughterhouses is addressing this issue.

XII.5. ***Reluctance to Change.*** In the livestock traders, pastoralists and other stakeholders have vested interests. The project may introduce conflicts in the system. For example, the siting of a new livestock market and quarantine/holding ground at Garissa has raised conflicts between livestock traders and the County and Municipal Councils.

XII.6. ***Weak Stakeholders Associations.*** At the grass–roots level, pastoralists are still poorly organized leading to exploitation by brokers, middlemen and traders. This is mainly due to lack of market information. The recent approach by various projects in setting the KLMC and introducing Management Information Systems for pastoralists may improve the situation but there is a strong need for strengthening marketing associations. During the capacity building this issue will be addressed.

XII.7. ***Severe Droughts.*** The areas experience severe droughts depleting the herds. This may disrupt the marketing system especially the export markets based on contractual agreements. Projects like the ADB and World Bank projects are addressing drought mitigation measures and natural resources management problems.

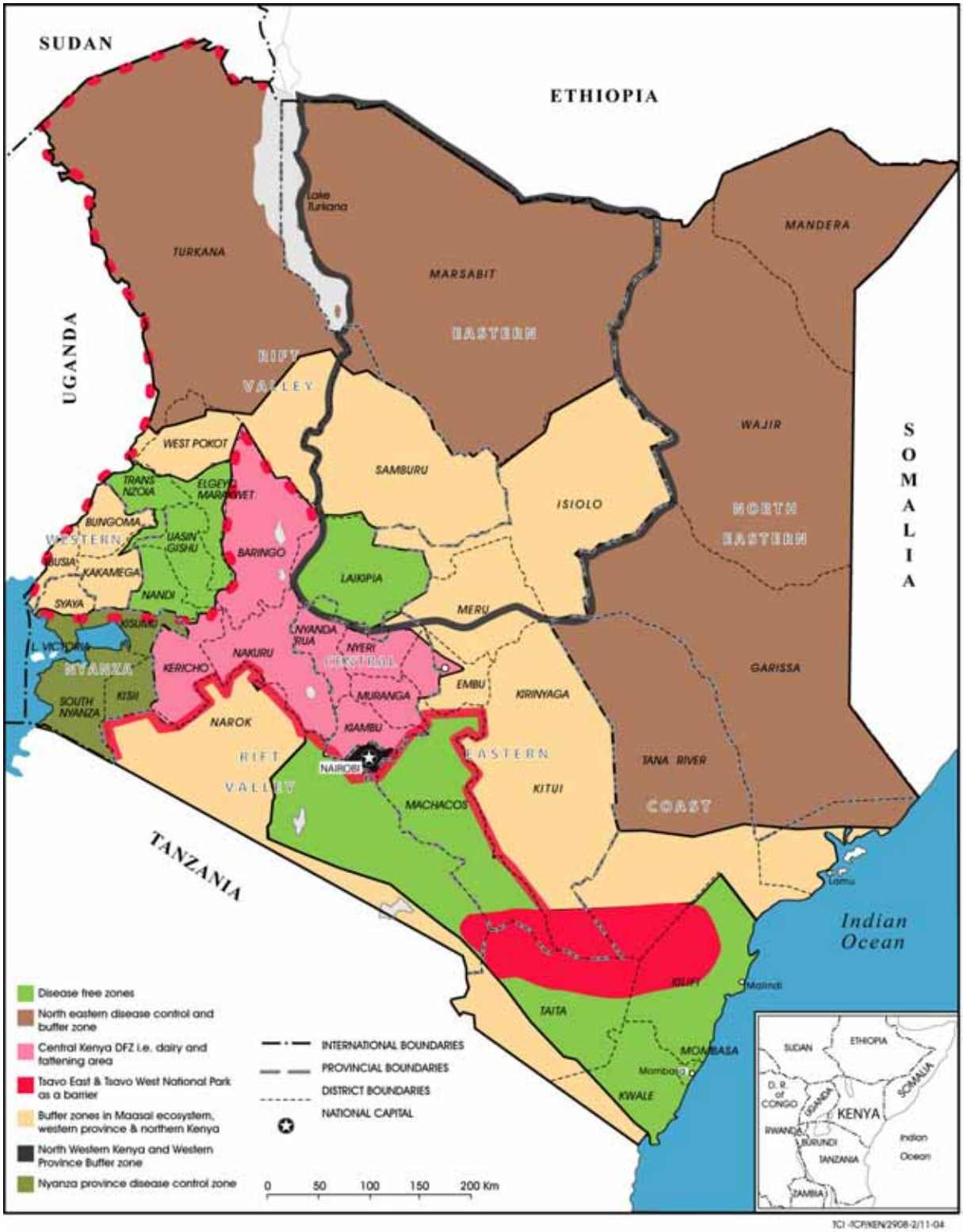
ANNEXES

Annex 1: Disease Control Blocks

Annex 2: Livestock Populations in Disease Control Blocks

Annex 3: General Principles of the Arab States Import Requirements for Live Animals and Meat

Annex 1: Disease Control Blocks



Annex 2: Livestock Populations in Disease Control Blocks

B1. North–Rift Disease Free Zone

This will serve Turkana, West Pokot, western province disease control and buffer districts and any others. Proposed DFZ districts with their estimated livestock figures are listed in table below:

District	Cattle Population	Remarks
1. Uasin Gishu	400,600	Dairy = 364,200
2. Nandi North & South	244,900	Dairy = 209,400
3. Lugari	100,800	Dairy = 45,800
4. Trans Nzoia	128,400	Dairy = 98,200
5. Keiyo	180,400	Dairy = 41,300
6. Marakwet	103,800	Dairy = 41,400

Buffer zone districts and provinces for N W Kenya disease free/export zone include:

District	Cattle Population	Remarks
1. Turkana	193,600	
2. West Pokot	298,700	Dairy = 39,100
3. Mt Elgon	41,600	Dairy = 13,800
4. Bungoma	260,000	Dairy = 45,500
5. Teso	33,000	Dairy = 1,600
6. Busia	130,900	Dairy = 6,200
7. Butere–Mumias	63,400	Dairy = 6,100
8. Kakamega	214,700	Dairy = 27,700
9. Vihiga	154,700	Dairy = 16,200

B2. Laikipia Disease Free Zone

This DFZ will serve the northern Kenya disease control and buffer districts (Moyale, Marsabit), samburu and Isiolo. It will also serve some northeastern districts (Wajir and Mandera). Timau division of Meru district will be included in Laikipia as a DFZ. Laikipia is the main area for fattening livestock for export (meat or live animals.

District	Cattle Population	Remarks
1. Laikipia	234,200	Dairy = 38,200
2. Meru Central	171,700	Dairy = 124,400

Buffer zone districts for Laikipia DFZ:

District	Cattle Population	Remarks
1. Samburu	196,400	Dairy = 4,900
2. Isiolo	125,200	Dairy = 200
3. Meru North	127,500	Dairy = 38,800
4. Meru Central	171,700	Dairy = 124,400

Disease control areas:

District	Cattle Population	Remarks
1. Marsabit	134,200	Dairy = 200
2. Moyale	58,500	
3. Mandera	209,030	30
4. Wajir	289,000	

B3. Central Kenya DFZ

This is also a disease control and livestock marketing block. Activities here include biannual and annual vaccinations depending on the type of the diseases.

District	Cattle Population	Remarks
1. Nyeri	176,200	Dairy = 151,200
2. Nyandarua	284,300	Dairy = 272,500
3. Kirinyaga	81,700	Dairy = 62,700
4. Maragua	79,100	Dairy = 74,900
5. Murang'a	108,300	Dairy = 105,300
6. Thika	122,700	Dairy = 84,900
7. Kiambu	159,000	Dairy = 152,100
8. Nakuru	318,100	Dairy = 226,200
9. Koibatek	152,500	Dairy = 74,000
10. Baringo	299,100	Dairy = 38,300
11. Kericho	182,000	Dairy = 130,700
12. Bureti	212,400	Dairy = 156,000
13. Bomet	338,700	Dairy = 198,500

B4. Machakos/Makueni/Kajiado DFZ

District	Cattle Population	Remarks
1. Machakos	263,600	Dairy = 33,100
2. Makueni	236,800	Dairy = 32,000
3. Kajiado	400,400	Dairy = 80,300
4. Nairobi	22,800	Dairy = 19,500

The buffer zone districts are:

District	Cattle Population	Remarks
1. Kitui	271,500	Dairy = 2,400
2. Mwingi	170,800	Dairy = 200
3. Tana River	344,000	

B5. Nyanza Disease Control Zone

This is part of the Sukuma–Kuria–Luo ecosystem as per the East African Community (EAC) strategy of controlling TADs.

District	Cattle Population	Remarks
1. Kisumu	96,400	Dairy = 8,600
2. Siaya	123,200	Dairy = 1,900
3. Bondo	104,500	Dairy = 400
4. Rachuonyo	163,700	Dairy = 2,800
5. Homa bay	272,400	Dairy = 1,400
6. Suba	52,400	Dairy = 400
7. Migori	188,900	Dairy = 6,300
8. Kuria	66,100	Dairy = 6,500
9. Gucha	106,300	Dairy = 32,900
10. Kisii	112,900	Dairy = 68,400
11. Nyamira	81,100	Dairy = 51,700

B6. Somali Ecosystem Galana–Kilifi– Kwale–Taita Ranches DFZ The Tsavo national parks (east and west) act as a barrier between the coast region DFZ and the Machakos, Makueni and Kajiado DFZ		
District	**Cattle Population**	**Remarks**
1. Malindi	139,600	Dairy = 16,200
2. Kilifi	7,100	Dairy = 3,500
3. Taita Taveta	141,600	Dairy = 21,600
4. Kwale	167,300	Dairy = 33,100
The buffer zone districts are:		
District	**Cattle Population**	**Remarks**
1. Tana River	344,000	
2. Garissa	279,600	Dairy = 100
3. Ijara	240,500	
4. Mandera	209,030	Dairy = 30
5. Wajir	289,000	

Annex 3: General Principles of the Arab States Import Requirements for Live Animals and Meat

The following conditions relate to cattle/beef. Conditions for the export of small–stock and its meat follow the same principles with the nature of the diseases etc relating to the nature of the animals.

1. The animals must come from a country/zone which is not under a sanitary ban and where FMD, Rinderpest, PPR, CBPP and RVF are notifiable.
2. No case of RVF must have occurred in the country/zone for three months prior to shipment.
3. The country/zone must be free from Rinderpest or routine preventative vaccination is carried out.
4. FMD, Rinderpest and PPR must not have occurred within 10 km of production/holding zone for a period of three months (FMD) or three weeks (others).
5. The animals must have been kept for at least one month before quarantine where specified livestock diseases have not occurred for a specified period, e.g. FMD must not have occurred for 3 months before the one month period of holding.
6. Animals must be kept in quarantine for 30 days prior to shipment. Animals must be dispatched directly to quarantine from holding grounds, examined before entry to quarantine for clinical signs of diseases, the quarantine station and an area of 10km around it is disease–free.
7. Exported animals must have laboratory tests with negative results for FMD and any other diseases requested by the importing country.
8. The animals must be vaccinated against FMD at time of entry and 20 days after entry into quarantine. A specified vaccination programme for Rinderpest, PPR and RVF must be followed.
9. Animals must be treated against external parasites at time of entry into quarantine and kept protected. Wounds must be treated against myasis at the beginning and end of quarantine.
10. Animals must show no sign of contagious disease at the time of shipment.
11. Animals must not have been fed with ruminant meat and bone meal and were not treated with growth factors.
12. Meat must have been derived from animals slaughtered in an approved abattoir, designated for export and under regular veterinary supervision, fully eviscerated and de–boned, chilled to >2ºC for 24 hours and at least pH<6.0, processed under hygienic conditions considered fit for human consumption, processed to ensure destruction of FMD and Rinderpest viruses.

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